The Open Court.

A WEEKLY JOURNAL

Devoted to the Work of Conciliating Religion with Science.

Entered at the Chicago Post-Office as Second-Class Matter.

OFFICE, 169–175 LA SALLE STREET.

No. 120. Vol. III.—42 CHICAGO, DECEMBER 12, 1889. Two Dollars per Year / Single Copies, 10 cts.

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Compiler of "Caspar's Directory of the Antiquarian Booksellers of the U. S." Price with supplement to Jan. 1st, 1887, $5.00; and "Caspar's Directory of the American Book, News and Stationery Trade, and kindred branches, 1889." $12.00 net. Send for complete prospectus of this work.

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PUBLISHED EVERY THURSDAY BY

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EDWARD C. HEGELER, PRESIDENT. DR. PAUL CARUS, EDITOR.

TERMS THROUGHOUT THE POSTAL UNION:

$2.00 PER YEAR. **$1.00 FOR SIX MONTHS.**
$0.50 FOR THREE MONTHS. **SINGLE COPIES, 10 CTS.**

All communications should be addressed to

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(Nixon Building, 175 La Salle Street,)

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THE OPEN COURT is not exclusive or sectarian. but liberal. It desires to further the efforts of all scientific and progressive people in the Churches and out of them, towards greater knowledge of the world in which we live, and the moral and practical duties it requires. To this end it asks for circulation in the Churches, and also in all Ethical, Secular, and other Liberal societies. It hopes for a well-wishing co-operation in what all must admit to be true, good, and practical in the conduct of life, individual and collective.

DEFINITIONS EXPLANATORY OF THE POSITION OF "THE OPEN COURT."

THE DATA of experience are perceptions.

REALITY is the sum total of all that is.

TRUTH is the conformity of cognition to reality.

[Truth being a relation between subject and object appears to be relative in its nature. Absolute truth is a self-contradiction; it would imply cognition without a cognizing subject.

At the same time it is obvious that absolute existence (in fact everything absolute) is impossible. Reality is properly called *Wirklichkeit* in German, derived from *wirken*, to take effect. Reality is not immovable and unchangeable absoluteness, but the effectiveness of things in their relations. Reality therefore implies not only existence, but the manifestation of existence also. Existence and its manifestation are not two different things; both are one.

The idea of something absolutely Unknowable is therefore also untenable; it would imply the existence of an object whose existence is not manifested *i. e.*, existence without reality; *Sein ohne Wirklichkeit*—which is a contradiction, an impossibility.]

SCIENCE is the search for truth.

The nature of science is the economy of thought. (*Mach.*)

Economy of thought is possible through application of the laws of form to thought.

KNOWLEDGE is the possession of certain truths.

[Knowledge is, so to say, the present stock or capital with which Science works. Science cannot exist without knowledge. The object of Science is not only to increase and enlarge knowledge but also to purify the present stock of knowledge from vagueness, errors, and misconceptions.

The purpose of knowledge is that of increasing our power over nature.]

MONISM is that philosophy which recognizes the oneness of All-existence, and the Religion of Monism teaches that the individual, as a part of the whole, has to conform to the cosmical laws of the All.

RELIGION is man's aspiration to be in harmony with the All.

[Religion has been defined differently in the columns of THE OPEN COURT, but all definitions that have been presented are in strict agreement. Mr. Hegeler in No. 25, defines Religion as "man's union with the All" (taking the definition from the Lutheran Catechism "Religion ist der Bund des Menschen mit Gott durch Gott," and replacing the Word GOD by the more comprehensive word THE ALL). The editor has defined Religion as "man's consciousness of his relation to the All" (No. 24); as "Das Allgefühl im Einzelnen," the All-feeling in the individual (see foot-note page 965); as "man's conception of the world that serves him as a guiding-star through life" (page 1180).]

MORALS are man's conduct in so far as it is in unison with the All.

[The basis of morality is religion. A moral educator or preacher may justly be asked, "On what authority dost thou justify thy precepts?" And he will tell us that his authority is not personal; he speaks in the name of universal order. Accordingly his authority is that of religion. If it were not so, all his good precepts would have no foundation; they would hover in the air like beautiful dreams that have no reality.]

ETHICS is the Science of Morals; it teaches man why he must, and how he can, regulate his conduct so as to be in unison with the All.

Natural history and the history of mankind prove that here on earth a constant progress takes place developing ever higher forms of existence.

Morally good are those acts which are in harmony with the All, *i. e.*, those which enhance progress, and *morally bad* are those which are not in harmony with the All, *i. e.*, those which retard or prevent progress.

[Religion (man's aspiration to be in unison with the All) has naturally produced many superstitious notions in the world, of its origin, and of its purpose. Similarly, science (man's search for truth) has produced many errors or false notions of reality. But all the superstitions of religion do not prove that religion as such is an illusion, and all the errors of science are no evidence that science as such is a sham.

It is obvious that religion and science, as here defined, are not contradictory to, but complementary of, each other. If religion and science do not agree, it is a certain sign that our conception of either the one or the other is wrong. The history of the human mind has been one of constant conflict and reconciliation between religion and science. Their relation has repeatedly been disturbed and re-adjusted.

The unitary conception of the world affords the only basis for the union of Religion and Science, and opens a new vista of progress for both.]

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THE PRICE OF ETERNAL YOUTH.

An unnecessary dread of death prevails among mankind, a dread which is due only to a morbid imagination. Men who are not afraid to suffer pain, are sometimes found to shrink from the mere idea of hazarding their lives. It is not the agonies of death of which they are afraid, nor is it the state after death, the eternal rest of being dead, which appears appalling, but it is the moment of dying,—that it is which they dread most. It is the passage from life to death, the passage through that gate,

> "Which every man would fain go slinking by—
> Where fancy doth herself to self-born pangs compel,
> Around whose na row mouth flame all the fires of hell."

This dread is unnecessary; it is founded upon wrong ideas of death; it is based on errors that can and must be dispelled.

We learned in school that the old physicists believed in a *horror vacui* and explained from it certain natural processes. This *horror vacui*, as we now know, is an error, just as much as the dread of death.

It is a fact that dying persons are, as a rule, under the impression that they have passed through a crisis for improvement, for the agony is overcome and pain has ceased. The feeling is due to a blunting of our sensory nerves and organs, and must be compared to the pleasant sensation which a fatigued person enjoys when quietly falling asleep. In sleep the sense-impressions become gradually dulled and sweet visions of dreams rise before our mental eye, until the light slumber passes into a profound sleep where all consciousness ceases. There is no more reason for the dread of death than for horror at lying down to sleep.

A sage of antiquity said: "Why should we fear death? Death is not here, so long as we are here. And if death is here, we are no longer."

We must meet death in the sense that the Stoic philosopher on the throne prepared himself to accept all the gifts of nature. He said: "Everything harmonizes with me which is harmonious to thee, O Cosmos. Nothing for me is too early nor too late which is in due time for thee. Everything is fruit to me which thy seasons bring, O Nature. From thee are all things, in thee are all things, to thee all things return."

Death is a natural phenomenon not less than birth; and the agonies of death are generally less painful than the throes of birth. The problem of death is closely interwoven with the problem of birth, so that you cannot disentangle the one without unraveling the other.

Birth is, as our scientists teach, the growth of an individual beyond its individuality. It is the nature of living beings to live and to grow. The lowest kind of animals do not die; they grow and divide and thus they multiply. The amœba may die from violence, it can be crushed to death by your foot; it may starve from lack of food; but it knows no natural death. The animalcules which you can observe to-day are the very same creatures that lived millenniums ago, long before man appeared upon earth. Immortality is their natural state.

How did it happen that death came into the world of life, into the realm of immortality? Is death the meed of sin that is due to a violation of nature's laws? Or if it is a natural process, pray what is it?

Death came into the world as the brother of birth, and death became necessary when birth with its rejuvenescent power lifted organic life one step higher in its evolutionary career, so as to allow a constantly renewed progress, so as to create innumerable fresh beginnings and to give new starts to life, new possibilities to the development of life.

Birth is growth beyond the limit of individuality. Thus the creature born is the very same creature as its mother and its father, just as much as the two amœbas are the very same substance the mother amœba was before her division. But the creature born has one great advantage over its parents. It can commence life over again. It is identical with its parents, but it is its parents in a state so little fixed and formed, so young, so unimpaired, so pure, like the fresh dew that glitters in the morning-sun, that it can make a new start, it can travel new paths and can climb to higher planes, which seemed inaccessible to its ancestors.

Not only men but all creatures are naturally one-sided; they develop to be one-sided through their occupations and their experiences, and become more and more so the longer they live. What can life wish for better, than to be allowed to drop again and again the fresh prejudices constantly acquired, which we even admit may be justified in the men that hold them. But we know that they would become injurious if mankind

clung to them forever. It is for the best of humanity, that it can drop the errors which are perhaps, as we freely grant, partial truths. Humanity must gain not only renewed vigor, but also virginity in life and in love, in hopes, and in ideal aspirations.

This is done through the introduction of birth into the empire of life. And this makes it possible that life is always young, that it is virgin-like, and endowed with renewed courage as well as interest.

Is the boon of a constant rejuvenescence of the race through birth bought too dearly by the surrender of our individual existence to death? Certainly not, if the good features of individuals can be transmitted to their descendants, if their death is only a partial obliteration of life, where it has lost the capacity of progressive endeavor, where impartiality of judgment is gone, so that we no longer can see the light when a new morn dawns with greater and higher possibilities.

Nature does not intend to ossify life, it makes life plastic, and in order to preserve the plasticity, the vigor, and virginity of life, nature endowed life not only with immortality that through the act of birth makes life extend and grow beyond the limit of individual existence, but at the same time it bestowed upon it, through the same means of birth, that wonderful desirable gift, eternal youth, without which immortality would become an unbearable burden.

What would life be, what would immortality mean, if it were not identical with eternal youth? If humanity must buy eternal youth at the cost of death—at the cost of the death of individuals, it is certainly not bought too dearly.

Death then is a necessity; but serious though the idea of death must make our thoughts, it is not terrible; awful though it may be, it must not overawe us. Death is like the northern sunset. The evening twilight indicates the rise of a new morn. The nocturnal darkness of the end of life is the harbinger of a new day, clothed in eternal youth. So closely interwoven is death with immortality!

The lesson that death teaches let me express in the words of our poet:

> "So live that when thy summons comes to join
> The innumerable caravan that moves
> To the pale realms of shade, where each shall take
> His chamber in the silent halls of death,
> Thou go not, like the quarry slave at night
> Scourged to his dungeon, but, sustained and soothed
> By an unfaltering trust, approach thy grave
> Like one who wraps the drapery of his couch
> About him, and lies down to pleasant dreams."

THE DIFFERENCE BETWEEN MAN AND ANIMAL.

BY PROFESSOR MAX MÜLLER.

THERE seems to be some truth after all in the old English saying that familiarity breeds contempt, or, at all events, indifference.

There is nothing we are more familiar with than our own language. We learn it, we hardly know how. While reading, writing, arithmetic, and all the rest, are not acquired without considerable effort, and are often forgotten again in later life, we learn our most difficult lesson, namely, speaking, without any conscious effort, and, however old we may grow, we never forget it again.

But I ask you, Have you ever tried to find out what this language of ours really is; how it came to us; when and where it was made; and what it was made of?

Of course, you will all say, we learnt our language from our father and mother, or rather from our mother and father. Yes, but from whom did they learn it? From their parents, and these parents again from their parents, and thus *ad infinitum*.

Even this simple answer, which is by no means quite correct, is full of import, and ought to have been taken to heart far more seriously than it seems to have been by certain philosophers who maintain that parrots and other animals also learn to speak, exactly as children learn to speak, and that therefore language is after all nothing so very wonderful, and cannot be said to form an impassable barrier between man and beast. It is quite true that children now-a-days do neither create their own language nor inherit it. Speaking any language is not an acquired habit that descends from father to son. The necessary conditions of speech, however, exist in man and in man only; for if these necessary conditions were present in the parrot as well as in man, it would indeed be strange, to say no more, that there should never have been a *Parrotese* language, and that no parrot should ever have learnt his language from his parents, and they from theirs, and thus *ad infinitum*. A parrot never learns to speak, as little as a child would ever learn to fly. These facts are so simple and so obvious that it is difficult to understand how they can ever have been disregarded by philosophers. And yet to the present day, most thoughtful writers go on repeating the old fallacy, that a parrot learns to say 'poor Polly,' just as a child learns to say 'poor Polly.'

To put it on the lowest ground, do these philosophers not see that every child of man is the descendant of an animal that *could* frame language, and *has* framed language; while every parrot, and every other animal is the descendant of an animal that never framed a language of its own? When a parrot learns to speak, it is simply tempted to utter certain sounds, in more or less close imitation of English or French, by such rewards as sugar and other sweetmeats, or by severe punishments on the part of its keepers. As to any parrot inventing a language of its own, and teaching that language to its young, not even Mr. Romanes would believe in such a miracle.

It is therefore not enough to say that we learn our language from our parents, and they from their parents, and thus *ad infinitum*. That would be a very lazy way of handling our problem. This retrogression *ad infinitum* would be a mere confession of ignorance, and such a confession, though it is very honorable when we know that we cannot know, cannot be tolerated except in cases where we know also *why* we cannot know.

When we see the history, or, as it is now the passion to call it, the evolution of language, we cannot help admitting that there must have been some kind of beginning. A language, such as English, for instance, does not tumble down from the sky; and, even if it did, it would have to be picked up, and to pick up a language, as you know, is not a very easy task, particularly for a person supposed to be dumb and without any idea of what language is meant for. In former times, as it seemed to be impossible to account for language as a piece of human workmanship, it was readily admitted that it was of divine workmanship, that it really had tumbled down from the sky in some way or other, and that curiously enough man alone of all animals then living upon earth had been able to pick it up.

But when languages began to be more carefully examined, traces of human workmanship became more and more visible, and at last the question could no longer be pushed aside, how language was made, and why man alone of all living beings should have come into possession of it.

Now I ask, If language is that which, as a matter of fact, distinguishes man from all other animals, is it not disgraceful that we should be so careless as not to attempt to find out what language is, and why we, and we alone of all animals, enjoy the privilege of speech? I know quite well that attempts have been made again and again to show that language is not the distinguishing characteristic of man, and that animals also, though they have never yet spoken, possess the faculty of speech, and may in time begin to speak. Even Kant seems to have indulged in the hope that the chimpanzee might some day begin to speak. But if faculty means originally facility, or that which enables us to do a thing, surely it is not too much to ask, why hitherto no animal should ever have cultivated that gift; why no animal should ever have said, 'I am an animal,' or, 'I am an ape.' Mr. Romanes, in his recent work on 'Mental Evolution in Man,' has done his very best to throw a bridge over the gulf that separates all animals from man, namely, language; and if *he* has failed in showing how human language could have arisen from animal utterances, I doubt whether anybody else will ever lead that forlorn hope again.

It is easy enough to show that animals communicate; but this is a fact which has never been doubted. Dogs who growl and bark leave no doubt in the mind of other dogs, or cats, or even of man, of what they mean. But growling and barking are not language, nor do they even contain the elements of language. All names are concepts, and to say that we think in concepts is only another way of saying that we think in class-names. Mr. Romanes admits this fully; in fact the very words I have used are his own words (l. c., p. 22, note). But has he been able to discover any traces or germs of language, or what he calls 'intellectual symbolism,' in any animal known to us, and more particularly in that animal from which he thinks we are more immediately descended? Evidently not. 'Anthropoid apes,' he says (p. 364), 'are the most intelligent, and, therefore, if specially trained, would probably display greater aptitude in the matter of sign-making than is to be met with in any other kind of brute.' 'But,' he continues, 'I do not press this point. What I now refer to is the fact that the existing species of anthropoid apes are very few in number, and appear to be all on the high road to extinction. Moreover, it is certain that none of these existing species can have been the progenitor of man, and, lastly, it is equally certain that the extinct species (or genus) which did give origin to man must have differed in several important respects from any of its existing allies. In the first place, it must have been more social in habits; and, in the next place, it was probably more vociferous than the orang, the gorilla, or the chimpanzee.'

Against such arguments it seems to me that even the gods would fight in vain. We are told that man is descended from some kind of anthropoid ape. We answer that all anthropoid apes, known to us, are neither social nor vociferous. And we are told that in that case man must be derived from an extinct ape who differed from all known apes, and was both social and vociferous. Surely, if this is a scientific argument, scientific arguments would in future rank very low indeed.

I know of no book which has proved more clearly that language forms an impassable barrier between man and beast than the book lately published by Mr. Romanes on the 'Origin of Human Faculty,' though his object was the very opposite. Taking that point therefore for granted, it seems to me disgraceful that in our general system of education, and even of elementary education, no place should have been found as yet for the Science of Language, and that a single child should be allowed to grow up, without knowing the worth and value of his most precious inheritance, without knowing what language is; language, which alone distinguishes him from all other animals; language, which alone makes man man; lan-

guage, which has made him the lord of nature, and has restored to him the consciousness of his own true Self.

And here I must guard at once against an outcry that is sure to be raised. It will be said that all these arguments are inspired by an ill-disguised pride, and arise from a wish to claim a higher position for man than for other animals. We are told that we ought to be more humble, and love our neighbors and venerate our ancestors, even though they were hairy apes. I plead 'Not guilty' to all such charges. By suggesting motives, any discussion may be poisoned, but such suggestions have really nothing whatever to do with the question which we are discussing. If it could be proved by irrefragable evidence that only a hundred years back all our ancestors were hairy and speechless, that would not make the slightest difference in our argument. On the contrary, it would only enhance our admiration of language, which, whether in one or in a hundred centuries, could have wrought such a marvelous change. It would only make it more incumbent on us to find out what language really is, that it should have produced, not only a new species of animal, the *homo sapiens*, but an entirely new world. That language *has* raised man into an entirely new atmosphere, an intellectual atmosphere which no other animal can breathe, is admitted on all sides.

Is it not disgraceful, then, I ask once more—is it not disgraceful that we should pass through life without attempting to know what that atmosphere really is from which we draw our best intellectual life? No one is considered educated without a knowledge of writing, reading, and arithmetic. To me it seems that no one should call himself educated who does not know what language is, and how it came to be what it is.

At first sight all we seem to be able to say of language is that it is wonderful, that it passes all understanding, or, as some people would say, that it is something supernatural and miraculous. That certain vibrations of air which we produce by various emissions of our breath should represent to us and to others all that has ever passed through our mind, all we have ever seen or heard or felt, all that passes before us in the countless works of nature, and all that passes within us in our endless feelings, our imaginings, and our thoughts, is marvelous indeed. In fact, next to the great miracle of existence there is no greater miracle than this translation of all existence into human speech and human thought.

But, as with all true miracles, so with this, our first duty is to try to interpret it, because then only will it reveal to us all that it was meant to reveal. And with regard to the miracle wrought by language, nothing is really more miraculous than its simplicity. It is generally supposed that the philosophy of language is a subject far beyond the reach of ordinary minds. I should be sorry to suppose that there were any minds which could not take in the simple lessons of the Science of Language. We never know anything truly, unless we can make it as clear as daylight to the commonest understanding. Every one of us starts from the level of the ordinary understanding, and however far we may advance, unless he has lost the thread of his own knowledge, that is, unless he has allowed his own mind to get raveled, tangled, and knotted, he ought to be able to lead others step by step to the same eminence which he has reached himself.

In no science is this more easy than in the Science of Language. It is difficult to teach a man music who cannot play a single instrument. But we all play at least one language, and can test the teachings of the Science of Language by a reference to our own language.

I shall try therefore to show you what the Science of Language has achieved, by taking my illustrations chiefly from a language which you all know—from English. And though I cannot in a few lectures attempt to give you more than the A, B, C of our science, still even that A, B, C may be useful, and may possibly encourage some of you to pay more attention to the study of so familiar, and yet so little explored a subject as our language is. It has indeed many lessons to teach us, many mysteries to reveal to us, and there is in it more work to do for any one who wishes to do useful work, than in any other science which I know of.

When we are told that the English language consists of about 250,000 words, we are no doubt staggered, and do not know how such a number or signs could have arisen, and how they can all be kept in our memory, each in its own place. But this large number of words is really an accumulation of many centuries, and nothing like that number could have been kept alive, except through the influence of literature.

Now literature, or, at least, a written literature, is a mere accident. Let us try, therefore, to realize what a language would be which possesses as yet no literature, and, therefore, no literary standard. Such languages still exist, and we find them generally full of dialectic variety. They vary as spoken colloquially in each family; they vary still more as spoken in different clans and colonies. In both these forms, as colloquial and as dialectic, they are full of what we may call slang,—expressions started by the whims of individuals, but often retained, and admitted after a time into more general use.

The first beginning of a settled form of speech is made at public gatherings, where a language must be used that is intelligible to persons belonging to different families and coming from distant settlements. This

public language, which is soon adopted for sacred poetry also, for popular legends, and for legal enactments, becomes in time what is called the sacred, the literary, or the classical dialect. But it does not absorb the whole life of a language. On the contrary, each language runs on in its natural channels of colloquial speech and dialect and slang, and supplies from time to time new material to the classical dialect.

What thus takes place before our very eyes in illiterate languages, must have taken place in all languages, and we can see the same forces at work, even now, in such highly cultivated literary forms of speech as English.

There is one kind of English which is spoken in parliament, in the pulpit, and in the courts of law, which may be called the *public*, the *ordinary*, and *recognized* English.

The *colloquial* English, as used by educated people, differs but slightly from this parliamentary English, though it admits greater freedom of construction, and a more familiar phraseology.

The *literary* English again requires still greater grammatical accuracy, and admits a number of uncommon, poetical, and even antiquated expressions which would sound strange in ordinary conversation.

The *dialectic* English is by no means extinct. The peasants in every part of England and Scotland and Ireland, though they understand a sermon in church, and read their newspaper, both of which are written in literary English, continue to speak their own language among themselves,—a language full of ancient and curious expressions which often throw much light on the history of classical English. These dialects have of late been most carefully collected, and this is a branch of study in which everybody, if only he has a well-trained ear, is able to render most valuable assistance.

Lastly, in discussing special subjects, we are driven to use a large number of *technical*, *scientific*, *foreign*, and even *slang* expressions, many of which are quite unintelligible to the ordinary speaker.

It is these technical, scientific, foreign, and slang terms which swell our dictionaries to such an enormous size. We are told that the new Oxford Dictionary will contain a quarter of a million of words. Does any one of us know 250,000 English words? I doubt it. It is extraordinary how many words this small brain of ours will hold, but there are limits to everything. In China a young man receives his first or second class in examination, according to the number of words he can read or write. But in order to obtain the place of an imperial historian, a candidate is not required to know more than 9,000. *We* do more than this. Most of us can read Shakespeare's plays, and in order to do that, we must know about 15,000 words. But though we understand most of these words (there are only about 500 to 600 words in Shakespeare which may justly be called obsolete), there are many we should never think of using ourselves. Most of us, I believe, never use more than 3,000 or 4,000 words, and we are assured that there are peasants who never use more than 300 or 400. This does not mean that they would not understand more than that number, for the Bible which they hear in church contains about 6,000 words;* these they would understand more or less accurately, though they would never think of using them.

THE INTENSITY OF SUB-CONSCIOUS STATES.†

BY ALFRED BINET.

In this new chapter of our study of the doubling of consciousness I propose to enter upon an exceedingly delicate problem, and one that is of the greatest importance to psychology. At the Paris Congress of Physiological Psychology recently, I raised a discussion upon the subject in question, and for the benefit of the readers of this review, I now desire again to set forth the opinion I hold and the experiments I have instituted; at the same time profiting by the various remarks and objections that have been addressed to me by other physiologists.

The problem that I seek to solve is, to understand how and why in hysterical patients a division of consciousness takes place. Not to present the question in too abstract a form, I shall recall to mind a few experiments that once again may better convey the idea of what this so-called doubling of consciousness really is.

We have repeatedly seen that in hysterical anæsthesia sensation is preserved and may reappear in a secondary consciousness, distinct from the principal consciousness. The observations that we have hitherto published related to the sense of touch. We showed, in this way, that an anæsthetic hand, hidden behind a screen, would take a pen or pair of scissors, which had been brought into contact with it, and with these several objects would perform various intelligent movements; which proved not only that the contact of the objects in question had been perceived, but that even their nature and functions had been recognized. To these observations we are now able to add still others, which show, that also the sensation of pain may be preserved. Two subjects I observed revealed in one half of their bodies a total insensibility to punctures, pressure, burning,—in short, to the most varied kinds of painful sensations; but when we put a lighted match into the anæsthetic hand, the fingers would

* According to W. T. Adey, *The English of King James's Version*, the Old and New Testaments contain 6,000 words.

† In continuation of the series "Double Consciousness." See No. 115.

draw back from the flame in proportion as the latter advanced, and would finally relax, allowing the match to fall to the ground. Pain caused by burning, accordingly, is actually felt in an apparently anæsthetic limb; there even existed, it seemed, a certain prevision of pain and corresponding defensive movements; yet all this did not reach the principal consciousness of the subject; the sensations and movements of the anæsthetic limb, by grouping themselves together, formed a secondary consciousness, which in its development did not amalgamate with the main consciousness. I must add, that, according to my own experience, it is less easy to impress on the anæsthetic regions a sensation of pain than a sensation of touch; with most subjects the anæsthetic hand which is able to adjust itself in adaptation to familiar objects, does not seem to feel the sensation of pain caused by a burning match, and does not perform any defensive movement to avoid it.

I trust that the details given in regard to the division of consciousness in hysterical subjects, will suffice to impart a perceptible form to the problem that we are endeavoring to solve. That problem is, to find out why sensations provoked in an anæsthetic region do not reach the principal consciousness of the patient; indeed, our wonder is all the greater that the sensations in question should be perceived by another ego, and should provoke appropriate movements. In other words, the question we ask is, what are the psychophysiological conditions that determine the formation of a second consciousness? Having put the question before the reader, we shall, for the sake of greater clearness, at once point out the solution we propose.

It is a matter of observation, as we shall presently show, that if among sensations belonging to the same organ of sense, (for example, to touch or to sight,) some belong to one consciousness and others to a different consciousness, there will exist among such sensations a difference of intensity. We are unable in cases of hemi-anæsthesis to demonstrate this fact directly; for it is utterly impossible to compare with one another, from the point of view of intensity, the tactile sensations of any two, sensible and insensible, parts of a body; because each of the consciousnesses knows but one of these two groups of sensations. We may, however, take a roundabout way, and resort to an artifice based upon the following fact, that in cases in which the hysterical patient presents an approximatively regular hemi-anæsthesis, the organs of sense situated in the insensible half will share the anæsthesis to a less degree than the skin will; thus, the eye may reveal a loss of the perception of certain colors, or a concentrical contraction of the normal field of colors. It is, accordingly, possible to institute comparative experiments upon the sensibility of the healthy eye, and likewise upon that of the eye on the anæsthetic side, with the view of ascertaining whether the sensations caused in both eyes by a same excitant exhibit differences of quality or of intensity. The two following experiments seem to furnish an answer to this question.

M. Charpentier has demonstrated, that a minimum of perceptible color exists, depending upon the extent of the stimulated part of the retina. The same fact is verified in the hysterical patient, yet on a much exaggerated scale, for in order that an hysterical person may be able to perceive a color, the colored surface must be larger than is required for the normal eye. Now, it is highly important to be able to establish that the chromatic minimum is not the same for both eyes. Let us take an example. To perform the experiments, it is not necessary to employ pure colors, since the main fact of importance lies in the comparison of the two eyes. Thus, in the case of Dem . . . . , a hemi-anæsthetical patient on the right side, a piece of red paper, to be perceived as such by the right anæsthetical eye, had to be at least six millimetres square, while in the case of the left eye two millimetres square is a sufficient size. It is thus seen that the quantity of excitation necessary for the production of the sensation of red is not the same for both eyes. This is not a matter of interpretation, but the actual fact itself; whence, it appears, we may conclude with a certain degree of probability, that if to both eyes we apply one and the same excitant, the sensation produced on the sensible side will possess a greater intensity than that produced on the anæsthetical side.*

A second experiment, likewise performed upon the sense of vision, yields a result which, in my opinion, leads to an analogous interpretation. We know that when we present simultaneously to each of both eyes two surfaces representing different colors, there is provoked what is called a conflict, an antagonism of the visual field. If, for example, we present to the right eye a red back-ground, and to the left eye a green one, the observer will perceive a field which seems alternately red and green. I have attempted to reproduce this experiment with hysterical subjects, by employing certain colored glasses, that have kindly been lent me by M. Ch. Henry. I have used only glasses the color of which my patients could perceive with both eyes. In hemi-anæsthetic hysterical subjects, submitted to my investigation, I have established the fact, that there is not produced a concurrence of the visual fields, as in normal individuals; the color placed before the eye of the sensible side is the only one perceived. If, for example, into the frame of a pair of spectacles we insert a red glass and a green glass,

*M. Parinaud, director of the opthalmoscopic department at the "Salpêtrière," has verified the same fact in a slightly different form. (Anesthesie de la retine Bruxelles, 1886.)

which are almost complementary and, when superposed, extinguish each other, the subject will only perceive the color of the glass placed before the eye of greater sensibility; he thus only perceives red in the one instance, and green in the other. Like the former example, this new experiment seems to me to demonstrate, that, given an equal degree of excitation, the sensations of the sensible eye will present a greater intensity than those of the anæsthetic eye.

This conclusion might be further strengthened by researches that I have recently made with reference to the times of reaction in visual excitations. The times are longer when the excitation is performed upon the anæsthetic eye; which seems again to prove, that the sensation of this eye, for any one excitation, is of a less intensity than that of the sensible eye. M. Féré has made observations on the times of reaction to tactile excitations, in cases of incomplete anæsthesias of the skin, and has obtained similar results.

In the researches of which I have just given a condensed exposition, we have hitherto compared the sensations produced in a sensible region and those produced in an anæsthetic region from the point of view of intensity only. If the conclusion derived—although provisorily—from these first researches is correct, we ought to be able to generalize it, and to assume in advance, that if we progressively diminish the intensity of an excitant that acts upon the more sensible organ, there must arrive a point at which the sensation is sufficiently diminished in intensity as no longer to form a part of the secondary consciousness, but become sub-conscious, as are the sensations of the anæsthetic regions.

And experiments, indeed, completely confirm this prediction. Here again we are by preference referred to visual excitants, in order, as far as possible, to obtain precise and mensurable results.

We have, in fact, already published the experiment required, in our study of the hysterical eye. (No. 102 of THE OPEN COURT.) We have seen, that if we place an hysterical person before a graduated scale of letters, the writing of the insensible hand, unknown to the subject, is able to reproduce diminutive letters that the subject himself cannot see. Now, it is easy to establish here, that a difference of intensity exists between the sensations forming part of the two consciousnesses.

The word intensity, I well know, has, when applied to sensations, a rather uncertain sense. But we call attention to the fact, that the intensity of visual sensation here corresponds to an objective fact, susceptible of measurement—the size, namely, of the retinal image; and all things being otherwise equal, it is allowable to say, that to the largest retinal image corresponds the most intense visual sensation. Now, just as when we diminish the retinal image—through the choice of ever smaller letters—a point arrives where the size of the image becomes insufficient to allow of reading, but nevertheless is sufficient to determine automatic writing, it is manifest, that the principal difference existing in this case between the sensations of the two consciousnesses, is a difference of intensity.

This second series of experiments reaches, we see, the same conclusion as the former. We shall presently expound still others, which belong to an entirely different order.

Among the most curious and important facts that have recently been discovered in the domain of physiological psychology, we must mention the phenomena of dynamogeny, as produced in hyperexcitable subjects under the influence of peripheral excitations, that is to say, of sensations of every kind. M. Féré, who long has studied these dynamogenetic actions of sensations, has demonstrated that they make themselves felt not only upon the movements, but upon the sensibility, upon circulation and the other physiological functions.*

These psycho-mechanical experiments can furnish a fresh argument in support of the thesis we advance; showing, that if the sensations we provoke in an anæsthetic limb, do not reach as far as the principal consciousness of the subject, it is caused by lack of intensity. In fact, when we subject the limb or the insensible region to the influence of a dynamogenetic agent, as a magnet or to electricity, the sensations provoked in this limb become conscious according as the power of dynamometric pressure is increased; there is, accordingly, probably produced the same augmentation of intensity in the psycho-sensorial process, as in the psycho-motory process.

If there remained any doubt in regard to the preceding interpretation, such doubts, I trust, would be destroyed by the recital of a somewhat complex experiment upon the visual organ, which I have performed upon several patients, and notably with L. L——. Let us again place this subject before the black-board with its scale of written letters. The patient's visual acuity, as previously stated, is equal to 0·5: the visual acuity, revealed by the automatic writing, is a trifle higher, it is equal to 0·75. If, while the subject is attempting to decipher the letters, we subject him to a dynamogenetic excitation, such as a simple pressure upon the anæsthetic hand, the visual acuity of the conscious subject increases, it becomes equal to 0·75, and, consequently, equal to that which guides the automatic writing. We are able to interpret this first result by asserting, that peripheral excitation renders conscious to the principal subject certain visual sensations, in that it augments their intensity.

But the most curious fact that occurs in this ex-

* *Sensation et Movement.* Paris: Félix Alcan.

periment is the following. This same dynamogenetic excitation exerts its influence upon the visual acuity that is in connection with the automatic writing. The measurement of this visual acuity shows even, that it can become equal to unity, namely, to that of a normal eye; the acuity of conscious perception remains less, and only attains 0·75.

It is really interesting to note, that a given peripheral excitation, which suffices to provoke automatic writing, is not competent to provoke the conscious perception of the principal ego. In other words, a degree of sensorial intensity sufficient to provoke automatic writing, does not suffice to provoke conscious perception; which proves once again, that there exists a difference of intensity between the psychological phenomena of the two consciousnesses.

All the experiments above expounded are susceptible of a very simple counter-proof. Up to this point we have seen, that in most cases we are able to render a sensation sub-conscious, by diminishing the quantity of excitation, or, inversely, to render a sensation conscious by augmenting the quantity of excitation. We have not operated directly upon the element of consciousness.

Hypnotic suggestion enables us to modify this element, to suppress it when it exists, or to create it, when it is lacking. By this means we are able to ascertain whether the conscious phenomenon corresponds to a definitely determined degree of intensity of the physiological phenomenon that serves as its foundation. Upon this point, I have performed, in association with M. Féré, an experiment which seems to me decisive. The experiment in question was conducted with an hypnotisable, hysterical woman, who when she voluntarily pressed the dynamometer in the state of rest indicated on it the number 20, and when she pressed the instrument while looking at a red-colored surface, the cipher 40. With this subject an hypnotic suggestion suppresses for a moment the conscious vision of the red. Again, invited to press the dynamometer, while looking at the red surface, which to the subject seems grey, she no longer indicates 40, but a number slightly higher than her normal figure. This experiment demonstrates to us, that the suppression of consciousness is equivalent to a diminution of intensity in the corresponding physiological process.

And this conclusion, which we have already reached a number of times, seems to me to deserve an earnest consideration; but, in order to be well understood, it needs to be made precise. In short, the experiments that we have recapitulated only seem to prove one thing, *viz.*: that a sensation having been given, whether visual, tactile, auditive or other, if we diminish its intensity, it is no longer perceived by the principal consciousness, but may be discovered in a secondary consciousness. A difference of intensity, accordingly, can serve to explain how a tactile sensation *a* belongs to the first consciousness, and a tactile sensation *b* belongs to the second.

But, when the sensations are of a different class, this comparison of intensity becomes altogether insufficient. Thus, there are subjects who will perceive an electric current in a member where they have lost the sensation of mechanical pressure, or of puncture, of heat, or of cold. Evidently we cannot explain this disassociation by saying that electric sensation is more intense than other sensations, because frequently the very subjects that are insensible to the strongest punctures, are able to feel even the faintest galvanic current, and moreover no standard of comparison is really possible between things that are so widely different. But let us call attention to the fact, that if the explanation we have proposed, encounters at this point a limit,—a fact which merely proves that it is not general,—nevertheless, we are able to establish that the notion of quantity and of intensity maintains its importance, even in experiments of the kind referred to. There are, in fact, many hysterical subjects who do not perceive the electrical excitation at the first instant it is applied to the insensible skin; but if the excitation is continued for a few moments, it most frequently happens that sensibility to the electrical current will be aroused under the form of a painful sensation; which proves beyond question, that a certain quantity of electrical excitation is needed in order to arouse conscious sensation, and that quality is not the paramount factor.

In conclusion I shall emphasize a psychological aspect, which appears to me of a certain importance.* I do not believe that a difference of intensity between two sensations of the same sense *ipso facto* justifies their distribution into two different consciousnesses. It is further necessary, that the sensation, however faint, should not possess an interest, a practical importance that might attract the attention of the subject, and by that very fact augment the intensity of the sensation in question.

The hysterical subject, as I, with many other observers, conceive him, is an exhausted subject. The slightest effort is painful to him, and he thus seeks to husband his forces. Like all of us, he experiences a vast number of sensations, differing both in their intensity and quality. He makes a selection from among all these sensations, because he finds it too fatiguing to perceive them all. Generally speaking, he more carefully preserves visual sensations than tactile sensations, because he can less easily dispense with the former; and in a given order of sensations, he pre-

*M. Pierre Janet, à propos of my communication to the Paris Congress had advanced an opinion which closely agrees with the one I set forth.

serves the most intense sensations, because the latter are perceived with the least effort of adaptation of the sensory organ. Such, in my opinion, is the rather indirect rôle of the intensity of sensation in the division of consciousness.

It is because feeble sensations are difficult to collect and to arrange, because they exact greater attention and greater effort, that the subject neglects them and that they form secondary consciousnesses. The division of consciousness, it seems to me, is chiefly explainable by the mental habitudes peculiar to the individual.

PLEASURE AND PAIN.

KANT says somewhere, "Pleasure is the feeling of the furtherance, pain of the hinderance of life," and expresses in this sentence an opinion that has been in vogue among philosophers since time immemorial. But it is strange that neither Kant nor any other thinker has greatly troubled himself with a careful investigation of facts. The statement seemed so obvious, so direct and convincing, that it received almost universal admittance in philosophy; and was even employed as a corner-stone for ethics by Epicurus, Bentham, Spencer, Hœfding, and others.

Alexander Bain in his excellent work "Mind and Body," quotes Kant's definition and develops his own as follows (p. 59):

"States of Pleasure are connected with an increase, states of Pain with an abatement, of some or all of the vital functions."

Bain adds:

"There are, however, a few startling exceptions. For example:—Cold may be painful and yet wholesome, as in the cold bath, and under the keen bracing air. But this exception, on closer view, confirms the general rule, while rendering its application more definite. Cold undoubtedly depresses, for a time, one very sensitive organ, the skin, perhaps also the digestive organs; while, in moderate degree (that is, the degree constituting wholesomeness) it exalts, through the capillary circulation, the lungs, the heart, the muscles, and the nerves; and the contrast teaches us that as far as *immediate pleasure* is concerned, we lose more by depressing the functions of the skin and the stomach, than we gain by increasing the power of the heart, the lungs, the muscles, or even the nerves themselves.

"Another very remarkable exception is the painlessness of many diseases, together with the occasional absence of all pain, and even the presence of great comfort, in the sick bed and in the final decay of life. . . . .

"The connexion of pleasure with vitality, and of pain with feebleness or loss of function, does not apply to all organs alike; some are comparatively insensitive, their degeneracy and decay seem unaccompanied with feeling; while in others the smallest functional derangement is productive of pain. Muscular weakness does not give pain, unless we are compelled to efforts beyond our strength; also the nervous system may be enfeebled as regards thinking power without producing discomfort, provided we are allowed perfect repose. . . . .

"Intellectual feebleness, decay of memory, and incapability of thought, are not painful in themselves. . . . .

"We often see patients in the last stage of consumption, still entertaining the most sanguine prospects of recovery; a proof that, instead of being mentally depressed, they are in the opposite or joyous condition. . . . ."

There is no sufficient explanation for all these exceptions to Bain's law identifying pleasure with a growth and pain with a decay of the vital functions. Bain says that sometimes an acute smart will temporarily raise the energies; it will have the effect of a stimulus. But this explains only a few instances, such as a cold bath or the influence of keen, bracing air, and these instances may be used as examples to show that the cold bath in itself can by repeated indulgence and through its wholesome effects become a pleasure. First it becomes a want and then the satisfaction of this want itself, even without taking into consideration the wholesome after-effect, is felt as pleasurable.

Mr. Bain does not, and I think he cannot, from his standpoint, remove the innumerable difficulties arising from exceptions irreconcilable with his law. The degeneration of several functions, the decrease of muscular and nervous activity, and even the dissolution by consumption are by no means always painful processes, and yet if anything they are decay, they are abatement. Certainly, the law is wrong, it is not derived from facts. It is an a-priori statement to which facts have to be fashioned in order to agree.

Pain is apparently due to a disturbance. We have for instance a hollow tooth; the nerve is exposed and the slightest irritation causes most violent pain. There is neither growth nor decay in the nerve, yet there is suffering. The decay of the osseous parts took place without pain. Now we go to the dentist and, supposing that he is unable to save the nerve, he at once removes all pain by the aid of a drop of cocaine, or carbolic acid, or any other drug which causes the nerve to die. Here is decay without pain. When infants are teething, there is growth combined with pain. Whatever the tooth may feel we do not know; yet its growth causes disturbances in the surrounding parts which are perceived as pains.*

In a state of decay the vital functions are abating. The lower the vital functions become, the less pleasur-

* Copulation, which is supposed to be a pleasure, is not growth, but a combination merely. Modern researches by Weismann and others have shown that it is a natural want rising from the insufficiency of an individual to propagate itself. Its physiological condition seems to be the divided existence of the reproductive germ, so that each sex posesses but one part. The continuance and regeneration of life depend upon the activity of the germ. Thus the restoration of the germ becomes a necessity and want of self-preservation. The natural desire for fecundation (not the other sexual instincts, which through heredity became strongly connected therewith) is an expression of the yearning for immortal life.

If growth were a pleasure, then child-bearing in itself, apart from its results should be the height of earthly enjoyment which perhaps should be eclipsed by birth only—birth being growth beyond the limits of an individual. Child-bearing in itself, the growth of a new being, is neither pleasurable nor painful. It often becomes painful by the many disturbances which it is but too liable to cause.

able excitement, but at the same time the less pain will be possible. Decay far from being identical with pain is the annihilation of the possibility of pain.

Pain is caused through perturbation. The more violent perturbations are, the stronger the pain will be. There are wholesome and disastrous disturbances. Among the wholesome disturbances we count not only those which arise from growth, but also such as arouse our energies and indirectly promote our general welfare, disastrous are such as lead directly or indirectly to destruction.

Decay is often accompanied with great suffering, but the suffering is apparently not due to the decay itself, but to the struggle of the animal vitality in order to overcome the decay. The agonies of death are not caused by death but by life's resistance to death. The agony is stronger in youths exuberant with vigorous health, than in old men whose vitality is low.

Pleasure and pain are generally conceived like heat and cold,* as correlatives; and in some respects they are counterparts; they are the two extreme poles of our soul life. But they are unlike heat and cold in so far as the one is not the same as the other differing only in degree.

Pleasure is wrongly considered as active, pain as passive. Prof. Bain attempts to show that pleasurable emotions display "the general erection of the body," while pain "leads to the relaxation of all the extensor muscles" which, he says, are the most powerful. Yet, the flexors of the hand which contract in a fit of anguish, so as to ball the fist, are much stronger muscles than the extensors, and even if that were not the case, Prof. Bain must and does concede, that there is "still an active prompting under pain." He cannot, as he suggests, confine this active prompting to a relaxation of the flexor muscles alone, for the cry of intense pain is to a great extent executed by the same muscles as the shouts of gay hilarity. Pain as well as pleasure are states of consciousness that accompany the reactions of the nervous system to certain irritations. Pain, it appears, is always caused through a disturbance, (whether this disturbance is good or bad is here a secondary consideration,) while pleasure is the gratification of a want.

There is much confusion shown concerning the nature of pleasure and pain, if the one is called an "accession of vital force," the other "a loss or deprivation of energy."† The different pleasures may be classed partly as the accessions, partly as a spending of vital force. Digestion is an accession, bodily exertion a deprivation of energy. Both are classed together as the most common pleasures of life. They are pleasures in so far as both are satisfactions of wants. A youth, who is glowing with vitality, has a natural want of bodily exertion, and a hungry stomach has a want of food. Take away the want and all that can be called pleasure in the acts disappears. It ceases to be a gratification.

It is generally acknowledged that there are pains which are wholesome, and pleasures which are disastrous. This does not prove that decay may sometimes be wholesome and growth fatal; yet it proves that some disturbances are good and conductive to our prosperity, while, on the other hand, some gratifications of certain wants will be found to be injurious.

The gratification of natural wants cannot, upon the whole, be considered as injurious; although an occasional lack of their gratification will often under favorable circumstances lead to progress. Wants that are not at all or insufficiently satisfied, prompt the inventor to invent, and the courageous to discover new paths that will in the end make possible their gratification. In the evolution of mankind and in the history of civilization this factor, perhaps, has been too little recognized. Ungratified wants are always disturbances in human life, and the more natural a want is, the more disagreeably will the disturbance make itself felt. Every living being has the natural tendency to gratify its wants, and pleasure may be defined as the feeling that naturally accompanies the gratification of wants.

Now we must bear in mind that among the many wants of living beings there are not only lower and higher kinds of natural, but also unnatural, wants. The intensity of a pleasure does not depend upon its being of a higher or lower kind, but exclusively upon the intensity of the want.

The lower natural wants are called necessities of life, and it is noticeable that they cease to be intense pleasures, the more their satisfaction becomes ensured. The energy necessary for their gratification can thus be employed for the higher emotional and intellectual wants. Unnatural wants are the result of unnatural habits, but we can observe that their gratification is just in the same measure as in other cases pleasurable to the degree of intensity of the want.

It would be impossible to draw an exact line between natural and unnatural wants, although there are some about which there can be no doubt where to classify them. The truth is that there is a large group of indifferent habits which are not injurious. They may be considered by one who is accustomed to them, as natural, by another, who has never practiced them, as ridiculously unnatural. Thus the smoking of a cigar, the drinking of a glass of wine, may be to one an intense pleasure, while to the other it appears as an abomination. The performance of certain actions may be an enjoyment for one and a veritable torture

* Bain says: Yet pleasure and pain are as opposite as heat and cold.
† Sir Charles Bell uses these expressions.

to another. There are men who love their trades or their professions, others who abhor them. There are women who delight in attending to their household-affairs, while others loathe the work.

Pleasure and pain are unavoidable so long as life means growth. Every progress causes disturbances which must be readjusted. A state of perfect adaptation, of which Mr. Spencer speaks, is a dream which is not realizable, unless we dam life's great stream in order to convert it into a stagnant lake. But if we succeeded in that, we would be sure to produce worse evils and more disagreeable pains than all the happiness would be worth, which could possibly result from such a state of perfect adaptation.

Professor Bain says: "Inasmuch as we follow pleasure and avoid pain, if pleasure were injurious and pain wholesome, we should soon incur entire shipwreck of our vitality," but he finds it necessary to add, "as we often partially do, through certain tendencies that are exceptional to the general law." Do not, indeed, *most* shipwrecks in life occur because people indeliberately follow pleasure and avoid pain? And is it not for that reason that we have to preach morals? Some ethical philosophers attempt to base their morals upon the pursuit of pleasure and the avoidance of pain; but they start from the wrong supposition that pleasure is a furtherance, and pain an abatement of life. If pleasure and pain cannot be considered as a furtherance and an abatement of life, they can still less be identified with morality and immorality. It is true that the performance of moral acts should become a want of our nature, and in that case they would naturally become pleasures to us. But, so long as they are not yet natural wants, we must, nevertheless, follow the commands of right conduct. We certainly shall have a very questionable guide, should we follow our feeling of pleasure and pain in determining what is right conduct. Yet we should unhesitatingly obey the behests of our conscience,* without regard to pleasure and pain. P. C.

THE MEANING OF DEATH.†

BY PROFESSOR GAULE.

EVERYTHING that comes into being, comes but to perish; death is inevitable. The consciousness of this has taught us well to prune our hopes and wishes, and to make our plans in this respect for short duration only. But the discerning eye of science has discovered that in the true sense of the word there is no death.

What we call death, is but the separation of the two individual principles of which we are composed.

Take the Bacteria. After a short period of existence we see an individual divide. In its place, two new individuals of the same form appear, which continue the life of the original individual. No cessation of life has here taken place; we seek for the corpse in vain. Assuming the universal presence of proper nutriment, the division and subdivision of these Bacteria would continue without end, until the little rod-shaped creatures finally filled the whole world. But since proper and sufficient nutriment is oftentimes lacking, and since obstacles are constantly set in the way of such a wide extension of animalcular existence, death, under these conditions likewise, enters. Yet it has wholly the character of accident.

* * *

Now, every living creature starts from a germ—a definite mass of active, effective substance. The germ springs from other living creatures and contains the substance in which the latter are united with one another. The Bacterium builds from the dissolved nutriment that nourishes it, substances like itself; and its bodily increase is brought about by the action of every single part of its organization upon the alimental solution surrounding it and the conversion of that solution into component parts of its own life. After these changes have continued for a while, the substance stands in need of reorganization.

* * *

In the fertilized chicken-egg the greater part of the contents of the egg constitutes nutriment for the minute germ. The two active germinal substances are the germ-nucleus and the germ plasm; the two are chemically different. The germ-substances act upon the food-substance, chemical changes set in, and the materials forming the yolk unite with the germ substances. The latter, however, would soon give out, were they not constantly regenerated. But every cell manufactures germ-nucleus and germ-plasm; thus alone can the chicken build itself up, and grow larger and larger; and life cannot be extinguished, because the organization of the germ-substance is being continually replenished.

These processes determine the organization of definite forms in living beings, and consequently have not merely a chemical, but also a morphological character. We ourselves bear these two morphological principles within us, one of which uses up the germ-substance, and the other replenishes it. Both principles are engaged in unceasing conflict; the first ever seeking to draw to itself and to retain the germ-substance supplied by the other, in order to be able to prepare the way for the coming generation. It acquires, too, by growth, in this continuous struggle, a certain

* I here hesitated whether to use the word "conscience" or "reason." I preferred the more popular expression "conscience," although it is so often employed by modern theologians in a mystical sense. The Apostle Paul certainly uses the word in the sense of "a reasoning upon right or wrong conduct." Speaking of the conscience of the heathen he characterises it as "their thoughts, λογισμοί, accusing and excusing one another."

† From a lecture held at Zürich. Translated from the *Freidenker* by μκρκ.

advantage over the second principle; but as soon as the stage of puberty arises, its death is sealed. Thence originates the limited duration of individual life.

We may say, indeed, that we are composed of a principle of the present, and of a principle that prepares for the future; the one face of our Janus-head is turned to the present, the other directs its glance to the future. The antagonistic interests of the two powers lead to long and hard battles, and are the cause that our life is so divided.

But what a fund of consolation lies in the knowledge thus gained for us! After all it is merely the individual that dies, and die it must that the species be preserved. We therefore become reconciled with death, for through death we are enabled to behold life, first, in ourselves and, then, in our children, in whom the type of the race reappears in its purity, having herein reverted to the original mould.

IN REPLY TO CRITICISMS OF "FUNDAMENTAL PROBLEMS."

IV.

THE MODESTY OF AGNOSTICISM.

It is always easier to scold than to reason. Accordingly it is a general rule that if a reviewer cannot, or if he does not care to, answer an argument, he commences to rail at the author whom he dissects. An Agnostic reviewer in the *American Hebrew Standard* says of "Fundamental Problems": "Nowhere in this book "is the modest reserve of the true man of science visible. We "have not the truly liberal spirit of the English school of natural philosophers, the spirit of a Newton, or a Darwin, or a "Spencer, but the harsh self-assertion of the German school of "metaphysicians, of a Hegel, or an Oken, or a Hæckel."

The honor of being labeled as a metaphysician, I must decline, and if the reviewer had been considerate enough to read the article on metaphysics, p. 74, he would most likely have avoided that term.

But why is "the truly liberal spirit" missing, why must "the arrogance of this author's style" be condemned? My reviewer says: "In his insistence upon the value of form, and of formal "knowledge, the author is standing upon firm ground. But when "he attempts to discredit the doctrine of 'the unknowable,' by in-"sisting upon that of 'Absolute Being,' [here we do not know "what our critic means,] he simply does not know what he is "talking about."

Is it not strange that Agnostics usually retreat into the redoubt of modesty? Modesty is made an argument of their dogma. We declare that everything that exists, must exist somehow; it must manifest its existence in some way. And this manifestation can be represented in the mind. We can become aware of it. Accordingly it is knowable. Existence, that does not manifest its existence somehow, is no existence. Absolute existence is equivalent to non-existence. Real existence is real by manifesting itself. Therefore existence is always knowable.*

To know the different facts of reality, to be aware of them, and to state them is not sufficient. We must try to understand them. The comprehension of facts is their methodical arrangement. The comprehension of facts is the object of the different sciences, and their ultimate unification in one great system is the object of philosophy. We are answered: "'The Power that the "Universe manifests to us,' may be scrutable to Dr. Paul Carus, "but to all less gifted mortals it remains as it was to Moses,* as it "is to Mr. Spencer, 'inscrutable'—something that 'no man can "see and live.'"

Now I think that we see the power that the universe manifests to us daily, and yet we live. Yes, we live in it and by it. We experience it in every throb of our heart and in every vibration of our brain. If my critic believes that in my insisting upon the value of form and of formal knowledge, I am standing upon firm ground, how can he object to my abandoning the agnostic view of the unknowable? Is it not form and the irrefragable laws of form that make it possible, and more so that make it unavoidable that the world throughout is cognizable? The regularity that arises from the laws of form affords us the key to the problems of nature.

Agnosticism appears at first sight as an expression of most laudable modesty. Who can blame a man for openly acknowledging his ignorance and who can doubt his sincerity? Socrates has been much admired for his confession, 'I know that I do not know anything!' But the agnostic outdoes Socratic wisdom and forefeits all claim to modesty by declaring that no one else can know anything about the mysteries which he himself cannot explain. By changing the unknown into the unknowable, the agnostic turns modesty into arrogance

Let me mention here that the terms liberalism and tolerance are often misunderstood or misapplied. Tolerance means the recognition of other people's right to express their opinion. It means that a man who has an opinion and expresses it, should not be put down with violence, nor should he be cried down with harsh words; he must not be called arrogant, because his opinion differs from ours. Tolerance demands that he should be heard, and if he be wrong, should be answered with good and sufficient reasons. "Truly liberal spirit" does not at all demand that all opinions must be considered as of equal value, nor does it oblige us to withhold our opinion in "modest reserve."

Critics can show their truly liberal spirit, by freely criticizing that which they consider as false; they can show their tolerance by explaining why they disagree with the author criticized. Our agnostic critic might have shown both by informing us what, according to his view, knowledge means. Before anybody declares that the whole world is unknowable, he should first lay down a clear definition of "knowable." Schopenhauer said that "physically everything, and metaphysically nothing is understandable." Very well! My definition of understanding is that of a physical understanding; and I count the conception of a metaphysical understanding which, from its very nature can never be understood, among the superstitions of science. We can easily dispense with such knowledge as is *per se* impossible, and with absolute or metaphysical knowledge, for what it means no one knows. If agnosticism merely meant that metaphysical knowledge is an impossibility, there would be no quarrel.

A philosophy which starts from the positive data of experience, and arranges them in the system of a monistic conception of the world, will meet with many great problems and in solving them will again and again be confronted with new problems. It will always grapple with something that is not yet known. The unknown seems to expand before us like an infinite ocean upon which the ship of knowledge advances. But the unknown constantly changes into the known. We shall find no real unknowable wherever we proceed. The idea of the unknowable is like the horizon—an optic illusion. The more we advance, the farther it recedes. The unknowable is no reality; the unknowable can nowhere prevent knowledge nor can the horizon debar a ship in her voyage, from further progress.

A witty paper contained a few weeks ago a remark to the pur-

*For details the reader is referred to the work itself.

*It is an original idea to claim Moses as an Agnostic. Moses's doctrine was certainly not Agnosticism and the holy legend that he could not see God face to face admits of other interpretations.

port, that "he who solves nature's problems is a scientist, but he "who declares them to be insolvable is a philosopher." This was said in jest, but the agnostic is in earnest and when a man propounds another and a positive view of philosophy, declaring, not that all philosophical problems are solved, but that they are solvable, he is arraigned for arrogance.

If philosophy is to be called the conviction that the world is inscrutable, let us abandon philosophy and in its stead let us arrange the knowledge which scientific researches yield us, into a unitary harmonious conception of the universe—call it what you will! P. C.

SONNET.

BY LOUIS BELROSE, JR.

How to be envied is the lot of those
Whose placid minds forever calmly soar
Above the troubled world; who can ignore
The anguish of the present in its throes,

To follow still where idle fancy goes;
Or, undisturbed, with rapt attent explore
The labyrinth of past, or con the lore
That nature's depths from transient eye enclose!

Such is not mine, alas! My cherished theme
Has been begun and left a thousand times,
And noisy rumors make my thoughts to seem

Like timid birds that seldom-ceasing chimes
Frighten from where they still return to teem
On some cathedral spire that into heaven climbs.

1873.

THE PARTING.*

BY MARY MORGAN (GOWAN LEA).

The yellow forest shivers,
And falls the withered leaf;
Alas, that what is lovely
Should have a life so brief!

The tree-tops coldly glisten
Beneath a sickly light—
The Summer's farewell kisses
Before she taketh flight.

I feel that I am weeping
My very heart away;
This pensive scene recalleth
Our dreaded parting-day.

Aware that thou wert dying,
I left in saddest mood:
I was the going Summer,
And thou the fading Wood!

BOOK NOTICES.

MOTHER'S PORTFOLIO. A Book for every Mother; containing Messages from Frœbel and the Kindergarten for the benefit of the little folks. Illustrated. By *Cora L. Stockham* and *Emily A. Kellogg*. Chicago: Alice B. Stockham & Co.

This compilation constitutes a volume of between four and five hundred pages. It comprises much information concerning nursery and kindergarten occupations, contains papers from leading educators (among whom may be mentioned Emily A. Kellogg, Cora L. Stockham, Mary B. Willard, Alice H. Putnam, Harriet Prescott Spofford, and Florence Pine Bebb), stories (by R. L. Stevenson, Andersen, G. MacDonald, and others), music, and typical lessons adapted to the home and the kindergarten. It may be regarded as a popular and practical encyclopedia of kindergarten literature and methods. Clearly and simply written, it is eminently adapted, as its title implies is its purpose, for use in the nursery. It will make a very appropriate Christmas present.

We have received from Lord Queensberry a copy of a poem, "The Spirit of the Matterhorn—" dedicated to the Peers of Scotland. Lord Queensberry was deprived, in 1880, of his seat in the House of Lords. The ground of rejection was, that Lord Queensberry had previously expressed opinions in antagonism to the Christian Religion, and had publicly denied the existence of God. In refutation of these charges the pamphlet before us is written. Lord Queensberry objects to giving a name, such as God, to a power which to him seems undefinable by man; he prefers to call it the Supreme, the Inscrutable. The soul, he holds, is not an essence distinct from the body: it is *the actual result of the body itself*. Man, therefore, is *himself* responsible for the souls of posterity: he may improve, he may debase. The transmission and consequent preservation of what he possesses and has acquired is immortality. With this thesis we agree. But Lord Queensberry believes, with Spencer, that the ultimate aim of progress is universal happiness, the perfectibility of man—man's complete adaptation, socially, morally, and physically, to his surroundings; this is the goal of all striving and of all aspiration. Just this perfectibility it is that, we must insist, is in direct logical contradiction to the process relied upon to attain it; change is the condition of all life; its action is either progressive or regressive; and it is impossible to conceive a stage of existence resting secure upon a foundation that is contrary to the conditions through which it is attained. (Cf. p. 1989 of THE OPEN COURT.) Progress and evolution are the laws of life. (Watts & Co., London.)

A little brochure, by R. Bithell, Ph D., has recently been issued by Messrs. Watts & Co., of London, entitled "The Worship of the Unknowable." Dr. Bithell correctly defines worship, the recognition of worth; its elements are meditation, awe, wonder, veneration; and all culminates in aspiration and in prayer. But every human conception of God,—everything that has hitherto formed an object of worship,—has given way before science and hence become unworshipable; only the Unknowable remains, only the Unknowable is secure against deposition, for that can never be relegated to Science. And why? because it is not, and cannot be, an object of *cognition*. We have too often pointed out the fallacy of an existence which is not existence. However, we could earnestly wish, that wherever existence not capable of becoming the object of cognition is spoken of, cognition and its meaning be explicitly defined.

The opening article of *The Unitarian Review* for December, is by Francis E. Abbot—"Scientific Theology the Ground of all Liberal Religion." For an able metaphysical refutation of the ground upon which Agnosticism rests, we refer our readers to Mr. Abbot's paper. In the same review, Mrs. Celia Parker Woolley writes upon the "Effects of the Higher Education of Woman on her Religious Belief."

With the first number of the coming year, a new department will be added to *Scribner's Magazine*. It will be devoted to the brief consideration of matters of literary and artistic interest and to short *causeries* of the type that the "End Paper" has commonly represented. The promised addition will supply a feature that we have always felt the need of in this excellent periodical.

NOTES.

At the conclusion of the series of contributions by Prof. Max Müller, begun in this number, THE OPEN COURT will publish an essay by Ludwig Noiré, the late distinguished German philologist, upon a related topic.

*Heine.